CONTENTS

Databases of Genotoxicity and Carcinogenicity and Their Usefulness for Hazard Evaluation

S. Parodi and M. D. Waters. Introduction and summary. Genotoxicity and carcinogenicity databases: an assessment of the present situation 3

Carcinogenicity Databases

H. Vainio, M. Coleman, and J. Wilbourn. Carcinogenicity evaluations and ongoing studies: the IARC databases 5

L. S. Gold, T. H. Slone, N. B. Manley, G. B. Garfinkel, E. S. Hudes, L. Rohrbach, and B. N. Ames. The Carcinogenic Potency Database: analyses of 4000 chronic animal cancer experiments published in the general literature and by the U.S. National Cancer Institute/National Toxicology Program 11

S. Nesnow. Multifactor potency scheme for comparing the carcinogenic activity of chemicals 17

J. Huff and J. Haseman. Long-term chemical carcinogenesis experiments for identifying potential human cancer hazards: collective database of the National Cancer Institute and National Toxicology Program (1976–1991) 23

Genotoxicity Databases

A. E. Auletta, M. Brown, J. S. Wassom, and M. C. Cimino. Current status of the Gene-Tox Program 33

F. E. Würgler. Predicting mammalian mutagenesis by submammalian assays: an application of database GEN 37

M. D. Waters, H. F. Stack, N. E. Garrett, and M. A. Jackson. The Genetic Activity Profile database 41

R. W. Tennant. The genetic toxicity database of the National Toxicology Program: evaluation of the relationships between genetic toxicity and carcinogenicity 47

Toxicity/Genotoxicity Databases

K. L. Dearfield, J. A. Quest, R. J. Whiting, H. F. Stack, and M. D. Waters. Characteristics of the U.S. EPA's Office of Pesticide Programs' toxicity information databases 53

M. Hayashi, M. Nakadate, T. Osada, T. Ishibe, S. Tanaka, A. Maekawa, T. Sofuni, Y. Nakata, N. Kanoh, S. Hashiba, Y. Takenaka, and M. Ishidate, Jr. A fact database for toxicological data at the National Institute of Hygienic Sciences, Japan 57

S. Parodi, D. Malacarne, and T. Taningher. Examples of uses of databases for quantitative and qualitative correlation studies between genotoxicity and carcinogenicity 61

Mathematical/Expert Models

G. Klopman and H. Rosenkranz. Structure–activity relations: maximizing the usefulness of mutagenicity and carcinogenicity databases 67

M. Nakadate, M. Hayashi, T. Sofuni, E. Kamata, Y. Aida, T. Osada, T. Ishibe, Y. Sakamura, and M. Ishidate, Jr. The expert system for toxicity prediction of chemicals based on structure–activity relationship 77

R. Benigni and A. Giuliani. Mathematical models for exploring different aspects of genotoxicity and carcinogenicity databases 81

Prioritizing/Risk Assessment

R. D. Benz and H. Irausquin. Priority-based assessment of food additives database of the U.S. Food and Drug Administration Center for Food Safety and Applied Nutrition 85

W. A. Anwar. Cytogenetic monitoring of human populations at risk in Egypt: role of cytogenetic data in cancer risk assessment 91

J. Ashby. Aspects of database construction and interrogation of relevance to the accurate prediction of rodent carcinogenicity and mutagenicity 97

D. Brusick. A proposed method for assembly and interpretation of short-term test data 101

Open Discussion

P. Romano, O. Aresu, B. Parodi, D. Malacarne, G. Castagneto, S. Parodi, and T. Ruzzon. Analysis and comparison of information and data recorded in carcinogenicity and genotoxicity databases 113

N. Loprieno, G. Boncristiani, G. Loprieno, and M. Tesoro. Data selection and treatment of chemicals tested for genotoxicity and carcinogenicity 121

Global Atmospheric Change and Human Health

W. T. Piver. Preface: Global Warming 129

W. T. Piver. Global atmospheric changes 131

J. Longstreth. Anticipated public health consequences of global climate change 139

L. S. Kalkstein. A new approach to evaluate the impact of climate on human mortality 145

J. A. Last. Global atmospheric change: potential health effects of acid aerosol and oxidant gas mixtures 151

W. F. Fitzgerald and T. W. Clarkson. Mercury and monomethylmercury: present and future concerns 159

P. R. Jutro. Biological diversity, ecology, and global climate change 167

R. Shope. Global climate change and infectious diseases 171

F. Urbach. Potential health effects of climatic change: effects of increased ultraviolet radiation on man 175

F. J. G. M. van Kuijk. Effects of ultraviolet light on the eye: role of protective glasses 177

M. W. Anders. Metabolism and toxicity of hydrochlorofluorocarbons: current knowledge and needs for the future 185

B. D. Goldstein and D. J. Reed. Global atmospheric change and research needs in environmental health sciences 193

Contributed Articles

A. M. Herzberg and S. W. Lagakos. Cage allocation designs for rodent carcinogenicity experiments 199

A. I. Goren and S. Hellman. Passive smoking among schoolchildren in Israel 203

M. A. Ibrahim, G. G. Bond, T. A. Burke, P. Cole, F. N. Dost, P. E. Enterline, M. Gough, R. S. Greenberg, W. E. Halperin, E. E. McConnell, I. C. Munro, J. A. Swenberg, S. H. Zahm, and J. D. Graham. Weight of the evidence on the human carcinogenicity of 2,4-D 213

W. B. Riggan, K. G. Manton, J. P. Creason, M. A. Woodbury, and E. Stallard. Assessment of spatial variation of risks in small populations 223

P. B. Bolsaitis, A. S. Feitelberg, V. Dekermendjian, J. F. Elliot, A. F. Sarofim, and W. G. Thilly. Assay of mutation induced in human lymphoblastoid cells by combustion-generated soot particles 239

Letter to the Editor

S. Levine. Does aluminum lactate cause spinal cord infarction in rabbits? 245

P. Zatta and B. Corain. Response 245

Instructions to Authors 247

Published Volumes of *EHP* 249